

H09: NON-PETROLEUM FUEL PRODUCTS

***UYDA- H09 2003-578377/55 *CN 1417151-A**
Cement/electric power co-producing technology

UNIV DALIAN SCI & ENG 2002.12.14 2002CN-144928
 L02 (2003.05.14) C04B 7/42, C04B 22/14, C10L 10/00

Novelty: Calcium material is added to fuel coal for a power plant, fly ash produced in burning coal is used as the clay material and calcium sulfide generated by the calcium material and sulfide produced in burning is used as setting adjusting material to produce cement at 1200-1300 (sic). The calcium material may be limestone powder or other calcium material.

Advantage: The process saves soil resources and reduces environmental pollution in producing cement, and reduces sulfide and fly ash pollution in power plants.

C2003-156831

***PYRO- H09 2003-578437/55 *CN 1417289-A**

Double-section dry coal powder gasification furnace

INST PYROLOGY STATE ELECTRIC POWER CORP
 2001.11.08 2001CN-131780
 (2003.05.14) C10B 53/04

Novelty: A gasifying furnace includes two, upper and lower, sections of hearth. In the lower section, 80% of the dry coal powder is subjected to gasification reaction with oxygen and steam; and in the upper section, ca. 20% of the dry coal powder and steam are sprayed and are subjected to thermal decomposition and gasification with the high temperature gas produced in the lower hearth section and to increase the inflammable component of gas and raise the heat value of gas while cooling high temperature gas to solidify and separate the molten slag.

Advantage: The furnace has higher carbon conversion, cold gas efficiency and total heat efficiency compared with prior art gasifying furnaces, and its product is suitable for use in gas power generation and chemical synthesis.

C2003-156890

***CHPE- H09 2003-578439/55 *CN 1417293-A**

Delayed coking with low circulation ratio

CHINA PETRO-CHEM CORP 2001.10.30 2001CN-134273
 M24 (2003.05.14) C10G 9/00

Novelty: Delayed coking with a low circulation ratio includes preheating of fresh coking raw material and mixing with heavy coking wax oil from a cyclonic separator in the convection zone of a heating furnace, heating in the radiation zone of the heating furnace, coking in a coke furnace, purification of the produced coked oil and gas in a cyclone with the injection of cold heavy coking wax oil in the top of the cyclone, separation of the purified coked oil and gas in the fractionating tower, introducing a small amount of heavy coking wax oil to the cyclone for use as washing oil; and returning the separated coke powder, asphaltene and washed heavy coking wax oil to mix with fresh coking material.

Advantage: The process has high processing capacity and high quality of produced heavy coked wax oil.

C2003-156892

***CHAN- H09 2003-578440/55 *CN 1417294-A**

Delayed coking process, capable of flexibly regulating circulation ratio

CHANGLING OIL REFINING CHEM CO LTD CHINA
 2001.11.06 2001CN-131528
 M24 (2003.05.14) C10G 9/16

Novelty: In the delayed coking process, the raw material oil is first preheated in the convection zone of a heating furnace, then passed through a buffering tank and pump and heated in the radiation zone of the heating furnace to coking temperature, and coked in the coking tower. The high temperature oil gas after coking reaction are fractionated in the fractionating tower to obtain the product, and the wax oil from the bottom of the fractionating tower is returned to the buffering tank and is mixed with raw material oil preheated in the convection zone of the heating furnace, with the circulation ratio being regulated in 0-0.65.

Advantage: The process increases the processing capacity of the equipment, regulates the product structure and improves product distribution.

C2003-156893

***RENX/ H09 2003-578448/55 *CN 1417302-A**

New-type dry coal powder gas flow bed pressurizing gasifying furnace

REN X 2001.10.29 2001CN-134311
 (2003.05.14) C10J 3/54

Novelty: A pressurizing gasifying furnace is a single-nozzle and downward-spraying structure. The upper zone is the first gasifying chamber with a hot wall, an inner lining of refractory chromium corundum brick and back lining of heat insulating material. The lower zone is the second gasifying chamber with shell and tube water-cooling wall and heat insulating material in the furnace casing. In the first gasifying chamber, dry coal powder is burnt and gasified. Crude gas, molten slag and unreacted carbon grains enter downwards to the second gasifying chamber, and in the second gasifying chamber, carbon grains are further reacted with steam and carbon dioxide, the entraining flow is cooled and the molten slag is solidified. At the lower part of the second gasifying chamber, the entraining flow is returned upwards by the water cooling wall and out off the furnace to separate the molten slag, fly ash from crude gas effectively.

C2003-156901

***SHAN- H09 2003-578452/55 *CN 1417306-A**

Clean coal burning catalyst

SHANGHAI JIENENG SCI TECH CO LTD 2001.11.06 2001CN-132128
 (2003.05.14) C10L 9/10

Novelty: The clean coal burning catalyst comprises a composite hydrogen-storing alloy, alkali metal chloride, alkali earth metal chloride, boride, alkali metal oxidant, iron and manganese oxidant and other additive. The production includes the preparation of a composite hydrogen-storing alloy, and the composition of coal burning catalyst.

Advantage: The clean coal burning catalyst improves the coal burning efficiency and reduces pollution, and its use makes it possible to use high-sulfur and low-heat value coal in producing a briquette, leading to low coal burning cost.

C2003-156905

***NING- H09 2003-578453/55 *CN 1417307-A**

Kindling briquette without sulfide and nitride exhaust

NINGXIA LIGUXING SCI TECH CO LTD 2001.11.01 2001CN-140533
 (2003.05.14) C10L 11/04

Novelty: A kindling briquette without sulfide and nitride exhaust comprises anthracite (5-10 wt.%), brown coal (75-80 wt.%), sulfur fixing agent (1-2 wt.%), oxidant (5-10 wt.%) and pre-gelatinized starch binder (remainder).

Advantage: The kindling briquette may be lit with a match or a lighter. The addition of sulfur fixing agent results in no release of nitride, sulfur, phosphate and other harmful matter. It has low cost and long burning time and is safe.

C2003-156906

***KUNT/ H09 2003-579278/55 *DE 10200180-A1**

Wood chip gasification comprises drying wood shavings or chippings in heated hopper, then passing to oxidation chamber for partial burning prior to gasification

KUNTSCHAR W 2002.01.04 2002DE-1000180
 (2003.07.24) C10J 3/26

Addnl. Data: SCHLUETER H

(SCHL/)

Novelty: In the conversion of wood to gas, wood shavings or chippings are first dried in a heated hopper (10) from which they are released to an oxidation chamber (12) in which they partially burn prior to gasification in a gasification unit (14). The gas generated in the hopper or gasification unit is passed through the gasification section before discharge as gas.

Detailed Description: Ambient air is admitted to and flows through the oxidation chamber (12), but limited to such a quantity as will maintain the temperature within the chamber at 800-1000°C, facilitating sub-stoichiometric combustion. The gas is then allowed to expand (16) and cool to 100°C.

An INDEPENDENT CLAIM is also included for a wood gasification apparatus.

Use: Used for the conversion of wood chips and shavings into gas.

Advantage: The extended gas residence period in the apparatus breaks down phenols, tar and other impurities into harmless residues.

Description of Drawing(s): The drawing shows a cross-sectional side-view of the apparatus for wood chip gasification.

Hopper 10

Oxidation chamber 12